MAYDAY: FIREFIGHTERS IN DISTRESS

FINANCIAL MANAGEMENT

BY: Jonathan S. Smith Clackamas County Fire District #1 Milwaukie, Oregon

An applied research project submitted to the National Fire Academy as part of the Executive Fire Officer Program

Appendices Not Included. Please visit the Learning Resource Center on the Web at http://www.lrc.fema.gov/ to learn how to obtain this report in its entirety through Interlibrary Loan.

ABSTRACT

On November 18, 1998, Clackamas County Fire District #1 adopted a new standard operating guideline (SOG) entitled *Lost/Trapped Firefighter – Basic Survival*, *SOG 202.1*. With the adoption of the new policy, a new term, "Mayday," was introduced to Clackamas firefighters. This term had not been used in an actual fire incident or in formal training when this applied research project was initiated. The author set out to evaluate the adequacy and effectiveness of the current policy and training with respect to MAYDAY, and to identify any needed changes or improvements. In addition, an attempt was made to determine the universality of the word MAYDAY in the Portland Metropolitan area fire service.

The applied research problem was that Clackamas Fire had not provided training for firefighters regarding use of the term MAYDAY as a distress call, and offered only limited reference to MAYDAY usage in its Standard Operating Guidelines manual. The purpose for this applied research project is two-fold. First, it is desired and intended that Clackamas County Fire District #1 and the greater fire service community will derive useful benefits that will be helpful in furthering firefighter safety from the findings and recommendations contained herein. Secondly, as part of the National Fire Academy's Executive Fire Officer Program (EFOP), this paper will fulfill an academic requirement for the *Fire Service Financial Management* course.

The evaluative research method was used to answer the following four questions:

1.) Where does the term MAYDAY come from, and, is it a universally recognized term in Portland Metropolitan area fire departments?

- 2.) Are there any national standards, Federal, State, or local regulations regarding the use of the term MAYDAY for the fire service?
- 3.) How is the term MAYDAY being used in fire departments that have experienced firefighter rescue situations and/or line-of-duty deaths?
- 4.) Does Clackamas County Fire District #1 need a MAYDAY policy?

The procedures utilized for this applied research were: literature review, examination of fire department policies, and development of a survey instrument with results measured and compiled.

The literature review process focused upon published documents that were specifically relevant to the term MAYDAY, including current fire service trade journal articles, and germane information available from government agencies. Fire department policies were solicited from several agencies for examination and comparison. In addition, the author developed a survey questionnaire that was sent to fifty-two selected fire departments throughout the United States. The criteria for selecting the targeted departments was that the department had either experienced a firefighter death or a firefighter rescue in a structural fire combat incident in the past five years. There was a 73% rate of participation among the departments surveyed.

Results of the research included defining MAYDAY and examining the origin of the term as used in non-fire service trades. It was also concluded that MAYDAY, although widely recognized, is not a universal term in the Portland area. In addition, it was found that MAYDAY is typically addressed in local agency policy instead of being State or Federally regulated. The survey showed that slightly less than half of the replying departments use the term MAYDAY. Finally, it was determined that Clackamas

County Fire District #1 need not adopt a singular MAYDAY policy as long as MAYDAY is adequately addressed elsewhere in policy form.

The recommendations resulting from the applied research focused upon policy and training issues. It was recommended that Clackamas Fire conduct a review of all fireground policies for consistency and to assure a clear definition and usage of MAYDAY terminology. Further, it was recommended that Clackamas County Fire District #1 be an advocate regionally for the adoption of this terminology, working toward making it universal in the Portland area.

TABLE OF CONTENTS

ABSTRACT2	2
TABLE OF CONTENTS5	5
INTRODUCTION7	7
BACKGROUND AND SIGNIFICANCE9)
LITERATURE REVIEW1	10
PROCEDURES1	l 4
LIMITATIONS1	l 6
RESULTS1	l 6
DISCUSSION2	22
RECOMMENDATIONS	24
REFERENCES2	26

APPENDIX A: Sample MAYDAY Survey Cover Letter	28
APPENDIX B: Compiled MAYDAY Survey Results	29
APPENDIX C: Lost/Trapped Firefighter Policy – Clackamas	31
APPENDIX D: Company Unit Communications Policy – New York	33
APPENDIX E: Search, Rescue and Evacuation Policy - Bellevue	34

INTRODUCTION

"MAYDAY, MAYDAY, we're running out of air, can't find the way out." As detailed in an *Esquire Magazine* (2000) feature article, this ominous message was transmitted via radio on Friday, December 3, 1999, at the Worcester Cold Storage Warehouse fire in Worcester, Massachusetts. It was followed by the words "Hurry. Please hurry..." In what has become a notorious incident in contemporary firefighting history, the unfortunate outcome in this tragic situation was the loss of six Worcester firefighters.

Clackamas County Fire District #1 has been fortunate in that it has never experienced a line-of-duty firefighter death. Every fire officer hopes to avoid the tragedy of dealing with an incident involving a firefighter fatality. In recent years, the fire service at large has focused on improving firefighter safety and survival via training in many component topics, such as: use of rapid intervention teams, accountability systems, incident safety officer, technical rescue skills, incident management, and many more.

As a result of an industry-wide increased awareness of firefighter safety issues, the term MAYDAY has been implemented in many fire departments for use as a distress call when firefighters are in trouble. Some agencies utilize the term in conjunction with rapid intervention rescue procedures while others may have a MAYDAY policy or reference to the term elsewhere.

The stimulus for this applied research project involves the use of MAYDAY at Clackamas County Fire District #1. In an attempt to improve firefighter safety, Clackamas Fire recently adopted a policy to provide direction to firefighters who may become lost or trapped in a building, including use of the term MAYDAY. The problem

is that Clackamas Fire has provided little or no personnel training regarding the use of the term MAYDAY as a distress call, and provides only limited reference to MAYDAY usage in its Standard Operating Guidelines manual. The purpose for this applied research project is two-fold. First, it is desired and intended that Clackamas County Fire District #1 and the greater fire service community will derive applicable benefits that will be helpful in furthering firefighter safety from the findings and recommendations contained herein. Secondly, under the auspices of the National Fire Academy's Executive Fire Officer Program, this paper will fulfill an academic requirement for the *Fire Service Financial Management* class.

The evaluative research method was applied to answer the following four questions:

- 1.) Where does the term MAYDAY come from, and, is it a universally recognized term in Portland Metropolitan area fire departments?
- 2.) Are there any national standards, Federal, State, or local regulations regarding the use of the term MAYDAY for the fire service?
- 3.) How is the term MAYDAY being used in fire departments that have experienced firefighter rescue situations and/or line-of-duty deaths?
- 4.) Does Clackamas County Fire District #1 need a MAYDAY policy?

BACKGROUND AND SIGNIFICANCE

Clackamas County Fire District #1 adopted Standard Operating Guideline (SOG) #202.1 *Lost/Trapped Firefighter – Basic Survival* policy on November 18, 1998. This policy explains many procedural issues related to fireground duties in structural fire combat situations, including basic survival techniques for lost, disoriented, or trapped firefighters. Upon adoption of this SOG, the first introduction of the term MAYDAY was made to Clackamas firefighters.

Clackamas fire suppression personnel are allowed to provide input to policies under development via a consensus process, and are required to read new policies once they are adopted. Since MAYDAY is a very rarely used but exceptionally consequential term indicating an imminent high-risk firefighter rescue situation, an appropriate understanding of its meaning and usage is critical. And since this terminology is essentially in its infancy for Clackamas firefighters, the author sought to delve into this topic to find out if it is also used in the same manner in other Portland area metropolitan fire departments, and, ultimately, if Clackamas County Fire District #1 needs a more specific and detailed stand-alone MAYDAY policy.

A major concern prompting this applied research project was the question of whether enough emphasis had been placed upon the introduction of the term MAYDAY for personnel to be thoroughly versed in its use. It is feasible that improper use of such an emergency term could lead to unnecessary rescue efforts that could put many fire personnel at risk and could potentially *contribute* to firefighter injuries or deaths.

The topic of this document relates to the Executive Fire Officer Program Course titled *Fire Service Financial Management* in several ways. In addition to the emotional

impacts invoked by tragic firefighter deaths and injuries, a huge financial toll exists as well. Though it is somewhat difficult to quantify, the monetary costs subsequent to losing one firefighter could well be astronomical. Ambulance fees, hospital, doctor, autopsy, investigative, and personnel replacement expenses would have to be paid by the fire department. Many other resources may be needed as well, and these might entail psychological counseling for employees, funeral expenses, increased sick leave and or unexpected personnel retirements. In some cases litigation costs may become a factor as well. In most cases, these types of expenditures will far exceed budgeted funds, causing a serious financial impact upon the organization.

Presented within Unit IV of the *Fire Service Financial Management* course text is the importance of planning. The student is taught the importance of strategic planning, developing operational goals, and justifying programs and services based upon outcomes. A firefighter line-of-duty death could have far reaching impressions causing a ripple effect that jeopardizes almost any conceivable area of the fire department, including current programs, job security of management officials, labor-management relations, as well as undermining the public's confidence. In turn, the public's overall perception of their fire service provider will have an impact upon funding issues at city council hearing, the state legislature, and the ballot box.

LITERATURE REVIEW

A fundamental aspect of this applied research project was the literature review.

This review included various tasks, including soliciting germane policy samples from selected fire departments, searching through recently published trade journals for pertinent material, reading through United States Fire Administration/Federal Emergency

Management Agency and other government publications at the National Emergency
Training Center's Learning Resource Center. In addition, several related Executive Fire
Officer Program applied research projects were consulted. On-line searches were also
conducted, particularly with respect to the historical usage of the term MAYDAY.

Sources were consistent regarding where the term MAYDAY originated. The term is most often associated with both aviation and maritime trades to summon help in dire emergency situations. Accordingly, Webster's New World Dictionary (1988) defines MAYDAY as: "The international radiotelephone signal for help, used by ships and aircraft in distress." On-line references such as www.britannica.com, say the term comes from French phraseology. The following description was found at the educational www.greenapple.com web site.

"Mayday," which is the international radio distress call used by ships and airplanes, is actually an Anglicized for of the French "m'aider," which means "help me." The original phrase was "venez m'aider," which means "come help me," but the "mayday" version probably gained currency because of its distinctive sound, easily recognized above the static and noise of long-distance radio transmissions.

The literature review was helpful in revealing inconsistencies among the fire service relating to this topic. During this review it became clear that MAYDAY is far from being a universal fire service term. Although most fire departments using the term have similar policies and procedures, survey data (see Chapter 5 – RESULTS) represented that perhaps less than ½ of fire agencies even acknowledge MAYDAY in their communications.

Trends in recent fire service trade journals indicate there is a new and distinct focus upon firefighter rescue techniques. This may be due, at least in part, to the unfortunate increase in firefighter line-of-duty fatalities in 1999 over previous years. According to a release by the United States Fire Administration (2000), 112 firefighter fatalities occurred last year, this representing the highest number of firefighter deaths since 1989. Never before have topics such as advanced search and rescue techniques, firefighter self-rescue, and rapid intervention teamwork been so prevalent. "Fortunately," say Coleman and Lasky (2000), "in the past couple of years, it appears that more and more fire departments across the nation have been training their firefighters in the techniques necessary to rescue firefighters."

These topics are intimately tied into this applied research project because they are all geared towards MAYDAY situations. As stated by H. Lee Day III (1997), "We (firefighters) have been taught to always be the protectors of the other person's life and property and now we have finally realized that it is time to look out for ourselves." Similarly, Dunn (2000) writes about the tactical priorities of fighting fires. Life safety, according to Dunn, being the first tactical priority, must clearly include the lives of firefighters.

Morris (1996) remarks upon the overwhelming emotional pressure that comes to bear upon the incident commander when a firefighter is missing, stating "One of the worst things an incident commander can learn is that a firefighter is missing." Echoing the same sentiment, Smith (2000) writes "The worst nightmare for any incident commander is to hear the words 'Mayday! Mayday!' or that a firefighter or firefighters are down or missing."

And, stressing the importance of planning for the MAYDAY, Smith says that all incident commanders need to be prepared for such a truly "unthinkable" occurrence.

With the extreme degree of inherent stress in facing a MAYDAY situation, Morris (1996) recommends that strict discipline and adherence to policies must be maintained in order to keep control of personnel and effectively orchestrate emergency procedures.

The importance of having a MAYDAY policy was touted by several sources. As described by McLees (1997), the main purpose of such a policy is to prescribe a "definite course of action that will occur every time a MAYDAY is declared." McLees firmly contends that "Every fire department, large or small, career or volunteer, should have a MAYDAY policy in place." Regarding lost, missing, or trapped firefighters, Morris (1996) also asserts that "The importance of a written SOP that outlines a standardized and predictable response cannot be overstated."

In addition to the Clackamas County Fire District #1 policy (SOG # 202.1) referring to MAYDAY on the fireground, pertinent policies were also examined from the Bellevue Fire Department in Washington; City of New York Fire Department in New York; and the Phoenix, Arizona, Fire Department. Review of these policies accentuates many common components. Among those are detailed radio communication procedures, use of personal alert devices, incident management considerations, evacuation signals, self-survival techniques and search procedures.

It was also apparent during the review of policies from various agencies, that other terms are used, sometimes in conjunction with, or in place of MAYDAY. The City of Los Angeles, California, for instance, uses the term "red alert" instead of MAYDAY. The New York City Fire Department recognizes the term "urgent" for certain

circumstances, in addition to using MAYDAY. Some fire departments use other terms, such as "emergency traffic" as distress call terminology (Coleman and Lasky, 2000).

The literature review showed clearly that MAYDAY distress calls on the fireground will undoubtedly be among the most challenging problems conceivable, not only for incident commanders, but for all involved firefighters. Coleman and Lasky (2000) underscore this point, saying "How well Command (the incident commander) manages the MAYDAY and how well all on-scene crews interact with one another will determine the success or failure of the toughest type of incident we will ever fight."

PROCEDURES

This research project used evaluative research methodology to examine issues involving Clackamas County Fire District's application of the term MAYDAY as a fireground distress call. This methodology was also intended to facilitate the development of recommendations for Clackamas Fire as to whether a stand-alone MAYDAY policy is needed.

Literature Review

The literature review for this applied research project began during May, 2000 at the National Fire Academy's library, the Learning Resource Center. Several pertinent trade journal articles and other texts were identified for use as reference material. The author also searched through documents available via his place of employment at the Clackamas Fire Academy training library.

Much of the material examined during the literature review process was helpful to the continuation and eventual conclusion of this project. The material deemed most relevant to the topic is referenced to in part in the Literature Review section, which can be found beginning on page 9 of this report.

Review of Fire Department Policies

Policies were requested from several fire departments for use in determining similarities, differences, and idiosyncrasies. All of the policies selected for review contained references to the use of MAYDAY. In addition to the current Clackamas County Fire District #1 policy, the policies utilized were from the following agencies: New York City (NY) Fire Department, Los Angeles City (CA) Fire Department, Phoenix (AZ) Fire Department, City of Lynchburg (VA) Fire Department, and Bellevue (WA) Fire Department.

Targeted Fire Department MAYDAY Surveys

A survey was designed to assess various issues relating to the MAYDAY topic, such as the universality of the term, its meaning and application. Fifty-two (52) fire departments were targeted to receive the survey; each one selected had experienced either a firefighter fatality or firefighter rescue on a structural fire incident in the past five years. A diverse cross section of the fire service was contacted via this survey instrument. Departments included small, medium and large organizations, with work forces comprised of career, volunteer, and combination career-volunteer personnel. With thirty-eight surveys returned, a 73% overall participation rate was realized.

In order to elicit as much participation as possible, the survey was intentionally designed to be brief, containing only eight multiple-choice questions. The single-page questionnaire also attempted to be non-judgmental regarding fireground terminology and procedures, and to allow for anonymity of fire departments participating. Questions

included the related subject matter of evacuation signals, use of the Incident Command system, and standardized terminology.

Limitations

Factors limiting this applied research project were not significant; however, it should be noted that the reliability of certain responses from the targeted survey might be unreliable due to the recipients' personal knowledge, bias, and/or opinion. For example, a response from one survey to the question about regional common terminology was recognized by the author as being incorrect based upon first hand knowledge and experience. (Nonetheless, all answers were recorded and tallied as received.)

Additionally, in some cases there may be differences in the way policy is written and the how it is practiced in the field which is not always acknowledged by administrators who are likely to respond to the survey questions.

Pertaining to the literature review process, at first glance it appeared that MAYDAY reference material would be abundant due to the prevalence of related topics such as rapid intervention teams (RIT), firefighter self rescue, and so on. After extensive exploration, however, it was realized that few of the trade publications offer much in terms of MAYDAY-specific information.

RESULTS

1. Where does the term MAYDAY come from, and, is it a universally recognized term in Portland Metropolitan area fire departments?

Sources located during the literature review process were consistent with the definition and origins of the term MAYDAY. This term is used as an internationally

recognized distress signal and plea for help originating as a French saying. According to the Webster's New World Dictionary, Third College Edition (1988) Mayday is: "short for French (*venez*) *m'aider*, (come) help me. The international radiotelephone signal for help, used by ships and aircraft in distress."

Three of the largest fire departments in the Portland area were contacted regarding usage of the term MAYDAY as a fireground distress call. All three of these departments are adjacent to Clackamas County Fire District #1, and all protect populations of 85,000 or larger. The results were as follows:

Portland Fire Bureau, the largest fire department in the region does not use the term MAYDAY (D. Stevens, personal communication, October 15, 2000).

Tualatin Valley Fire & Rescue does use the term MAYDAY as dictated in an Emergency Communications Operating guideline (D. Morrow, personal communication, October 18, 2000).

Gresham Fire & Emergency Services uses the term MAYDAY. Gresham Fire is currently in the process of revising standard operating procedures to include the use of MAYDAY, and are referring to a training bulletin in the interim (E. Hartin, personal communication, October 18, 2000).

It appears that two of the three departments cited above, like Clackamas, have begun using MAYDAY within the past two years. The author must to conclude from the above data that MAYDAY can *not* be considered a universally recognized term at this time. The implications of inconsistent recognition of the term are significant, particularly when mutual aid incidents are taken into account. All of the agencies shown above participate on a regular basis as mutual aid providers to one another (and to Clackamas

County Fire District #1) and therefore are often working on the same fire incidents together.

2. Are there any national standards, Federal, State, or local regulations regarding the use of the term MAYDAY for the fire service?

As a practical matter, the answer to this research questions appears to be "no."

It is likely that, if this question was oriented toward aviation or maritime trades, perhaps standards would be available. The Federal Aviation Administration and National Transportation Safety Board, for instance, have extensive publications available, but none are fire service related.

Many references and resources were consulted during the course on the literature review process. This included perusal of National Fire Protection Association (NFPA) standards, Oregon Revised Statutes, Oregon Aministrative Rules, as well as Oregon Occupational Safety and Health Administration regulations. None of these sources made reference to the use of MAYDAY, or any other specific term to be used as a distress signal.

One reference found that approximates an applicable industry standard is the 1999 National Institute for Occupational Safety and Health (NIOSH) publication titled Alert: Preventing Injuries and Deaths of Fire Fighters due to Structural Collapse. This document applies, primarily in a peripheral sense, to the MAYDAY topic, covering radio equipment for signaling when a firefighter is in trouble. The following excerpt captures those necessary elements that fire departments must be accountable for as per NIOSH:

 Ensure that Standard Operating Procedures are adequate and sufficient to support radio traffic at multiple-responder fire scenes. Transmit an audible tone or alert immediately when conditions become unsafe for firefighters.

On the local level, as holds true nationally, each fire department has the autonomous ability to address fireground distress call terminology. Like Clackamas County Fire District #1, many fire departments have addressed this topic in policy form.

3. How is the term MAYDAY being use in fire departments that have experienced firefighter rescue situations and/or line-of-duty deaths?

This was a difficult question to answer in that the only reference to draw upon was essentially the targeted fire department survey. All of the fire departments surveyed had either experienced a firefighter fatality related to structural firefighting or a firefighter rescue in a structural fire incident in the past five years.

Of the departments using the MAYDAY terminology, which is about 47% of those surveyed, the term is used in a very similar way. The most notable exception being that some of the fire departments, such as New York City (NY), use additional terms depending upon specific circumstances.

The Los Angeles City Fire Department uses the term "red alert" for a radio distress call. This is one of the more common alternatives in use by fire departments. According to the Los Angeles policy, a red alert should be declared by:

- Any member who becomes trapped or lost in an emergency situation.
- Any officer who cannot account for his or her crew members.
- Any crew memb4er monitoring a radio who hears someone communicate that ho or she is in trouble, trapped or lost.

In New York's policy, the term "urgent" is used "when a member has suffered a

serious injury that is not immediately life threatening, or to inform members of a serious change in conditions." MAYDAY is to be used in only the following five situations:

- 1. Imminent Collapse Feared
- 2. Structural collapse has occurred.
- 3. A firefighter is unconscious or suffers a life threatening injury.
- An officer becomes aware that a member under his supervision is Missing. (If the missing member is an officer, any team member can transmit this message.)
- 5. Member becomes trapped or lost.

In consideration of this question it is perhaps significant that New York City Fire Department has the most comprehensive and detailed policy of all those reviewed. When looking at the fire problem and firefighting history of New York City, it is clear that their Company Unit Communications policy has been developed with a great deal of expertise and first-hand experience with MAYDAY situations.

Parenthetically, it is interesting to note which departments use MAYDAY, as well as those that do not. Boston, Memphis, Washington DC, Phoenix, and Seattle, are among those agencies that use MAYDAY. Los Angeles City, Los Angeles County, New Orleans, San Francisco, Chicago, Philadelphia, Houston, Pittsburgh, and Birmingham fire departments do not use MAYDAY.

To conclude, it is not clear if departments having experienced firefighter fatalities and/or firefighter rescue situations use MAYDAY to a greater or lesser extent than fire departments without such experience. It does appear to be the case, however, that many

of these agencies do have articulate, well-developed policies to address these life-and-death MAYDAY-type scenarios.

4. Does Clackamas County Fire District #1 need a MAYDAY policy?

The literature review definitely led to the conclusion that all fire departments should address this topic in policy. Sources such as Smith (2000), McLees (1997) and Coleman & Lasky (2000) all stated variously that fire departments need to develop such a policy. While McLees was very specific to say that a MAYDAY policy must be developed, Morris (1996) makes the more general recommendation that a policy directing a "standardized and predictable response" is of the utmost importance. The crux of this question is whether MAYDAY must be a stand-alone policy as opposed to being covered in another policy like Clackamas' Standard Operating Guideline 202.1 *Lost/Trapped Firefighter Basic Survival*.

With only slight variations of expert opinion, and, in the absence of industry standards for use of the MAYDAY distress call, individual jurisdictions are left to their own devices to address the issue. Since the Clackamas policy is sufficiently comprehensive in comparison to the other policies reviewed, the author concludes that a stand-alone policy is not a necessity. The more crucial matter as it relates to MAYDAY is that all personnel are thoroughly trained and familiar with whatever policy is used.

The process of comparing the Clackamas policy with those of other agencies, including New York City, Phoenix, Arizona, Bellevue, Washington, and others, indicated that the Clackamas standard operating guideline is of high quality, and addresses al of the critical needs for MAYDAY situations.

DISCUSSION

MAYDAY-MAYDAY! As journalist Dave Larton (1999) says, these words are easily recognized the world over meaning that "someone is in distress and requires immediate response." While this terminology is considered to be an "international" distress call for aviators, marine pilots, and search and rescue organizations, what does it mean to the fire service? Is MAYDAY a universal fire service term?

As the author looked into these questions, it became readily apparent that MAYDAY is not even close to being a universal fire service term. Though many fire personnel may understand its meaning and usage, perhaps less than 50% of departments have formally adopted the term. This was explicit as verified by the results of the survey conducted as part of this applied research project.

It is a positive move for the fire service that "saving our own" and related topics have come into vogue in contemporary training literature. This will bring more and more departments into the fold, developing policies and procedures to be used when firefighters are lost, trapped, or in serious peril. Authors such as those quoted in this research document are among those promoting these important safety issues for the fire service.

It is the opinion of this author, a 20-year fire service veteran with many distinguishing educational and leadership accomplishments, as well as numerous trade journal articles to his credit, that MAYDAY should be highly recommended to become a universally used and recognized fire service term. The effectiveness and importance of a widely accepted term, and its potential impact upon firefighter safety, seems readily

evident.

The author also would submit the opinion that, to date, Clackamas County Fire District #1 has not sufficiently introduced the MAYDAY terminology and accompanying policy guidelines, to its front line troops. Though not an intentional omission, it would seem patently irresponsible to insert policy statements into the manual dealing with emergency life safety procedures, without making a concerted effort to present the information through formal training processes.

A basic tenet of the Incident Command System (ICS) is the use of common communications and "common terminology." With the advent and increasing acceptance of ICS in the fire service, command and control of incidents has improved, and firefighter safety has improved as well. As touted by Smith (1997), ICS has advanced a methodical approach to managing emergency incidents, and has promoted such concepts as the Incident Safety Officer and personnel accountability. In the absence of ICS on the emergency scene, agencies working together using differing policies or terminology can be detrimental to safety, as well as to the successful mitigation of an incident. Where there is a lack of standardized policies, Smith writes, "all the ingredients for a calamity are present."

In the same way as MAYDAY is used internationally, so it should be for the fire service. Unfortunately, the fire service is compartmentalized, made up of many independent units (fire departments), each one often "re-inventing the wheel" by developing their own policies and procedures. MAYDAY is such a fundamental and vitally important concept that it should be pervasive from one jurisdiction to another. It should be a thread as common as self-contained breathing apparatus. For, at times, it

may be of equal or greater importance.

RECOMMENDATIONS

The recommendations resulting from this applied research project are categorized in two main areas: policy and training. Both of these areas represent essential components of a firefighter safety program, and they should be indispensable to one another. It is intended that, with proper attention to both policy and training matters, that firefighters will be provided with the essential tools and knowledge to keep out of MAYDAY situations, or to respond appropriately if they become disoriented, trapped, injured, or in serious danger. Properly trained firefighters called upon to perform MAYDAY rescue procedures will be in a postion to react confidently, as they are well versed in the appropriate policies and procedures.

POLICY

It is recommended that Clackamas County Fire District #1 perform a review of all policies pertaining to fireground operations to assure the consistency of search and rescue procedures, rapid intervention team procedures, firefighter self-rescue tools and techniques, and radio terminology – including distress call communications. In reference to MAYDAY terminology, it should be clearly determined and explained in policy where and when it is appropriate for use, and its relationship to "emergency traffic" and other emergency radio procedures.

It is further recommended that Clackamas County Fire District #1, through its

Training Division and via political relations, advocate for a regionally adopted policy

regarding the use of MAYDAY on the fireground. The intent is to eliminate confusion in

cases of lost, trapped or injured personnel, and develop a common understanding and handling of such extreme emergencies. This advocacy on behalf of increased firefighter safety need not be limited to the Portland Metropolitan area, for it would certainly have even greater benefits if adopted nationally.

TRAINING

Perhaps the most important part of this subject matter pertains to personnel training. It is recommended that the Clackamas County Fire District #1 Training Division incorporate MAYDAY terminology and procedures into classroom and practical drills. This should include a review of any policy revisions resulting from recommendations contained in this report, and a study of all related fireground guidelines.

For multi-company hands-on drills, scenarios should be designed to include MAYDAY situations on a regular basis. Battalion Chiefs and Company Officers should also be challenged with managing these high-stress incidents during ICS simulator training.

Through a concerted effort with emphasis on utilizing MAYDAY, personnel will obtain a comfort level and a thorough knowledge of its application. As with all other aspects of firefighter safety, the level of training has a direct correlation to survival in the hazardous occupation of firefighting.

REFERENCES

- Coleman, J.F., & Lasky, R.. (2000, January). Managing the Mayday. *Fire Engineering Magazine*. 51+.
- Day III, H. Lee (1998) *Training and Implementing of Rapid Intervention Teams*.

 Executive Fire Officer Applied Research Paper, Emmitsburg, MD: National Fire Academy.
- Encyclopaedia Britannica. (2000). *Distress signal* [Online]. Available at http://www.britannica.com/bcom/eb/article/printable.
- Flynn, Sean (2000, July) FIRE: The Perfect Fire. Esquire Magazine, 64+.
- Larton, D. (1999, March/April). MAYDAY-MAYDAY! 9-1-1

 Magazine, 20-23.
- McLees, M. (1997, May). Mayday on the Fireground. Firehouse Magazine, 82-86.
- Morris, G.P. (1996, January). Firefighter Lost and Found. *Fire Chief Magazine*, 27-32.
- Smith, J.S., (1997, October). Incident Command System: Bringing Order to Chaos. *American Fire Journal*, 23-25.
- Smith, M.L. (2000, July). Chief Concerns: Making the Best of a Bad Situation. *Firehouse Magazine*, 28-29.
- Training Alert. (2000, July) American Fire Journal, 14-15.

United States Fire Administration. (2000). USFA Reports Firefighter Fatalities

Increased in 1999. [Online]. Available

http://www.usfa.fema.gov/nfdc/ff_casualties.htm. Accessed August 28, 2000.

Webster's New World Dictionary. (1988). *Third College Edition*. Simon & Schuster, Incorporated.